Response to Office Action of May 26, 2004

Attorney Docket: NORTH439A

IN THE CLAIMS:

1. (currently amended) A system for determining a ilitary threat level associated with a collection of detected plurality of separate objects imaged within a geographical area of interest, the system comprising:

- a) a data detector for detecting and imaging the plurality of separate objects located within the geographical area of interest;
- b) a threat intensity detector for determining the <u>an</u> intensity of <u>the</u> <u>plurality of separate detected</u> objects within the <u>geographical</u> area of interest; and
- c) a threat immediacy detector for determining the immediacy of a threat posed by the <u>plurality of separate</u> detected objects based on an organizational pattern of the <u>detected</u> plurality of separate objects.
- 2. (original) The system of Claim 1, wherein the threat intensity detector generates a density image.
- 3. (currently amended) The A system for determining a military threat level associated with a collection of detected objects imaged within a geographical area of interest, the system comprising:
  - a) a data detector for detecting and imaging objects located within the geographical area of interest;
  - b) a threat intensity detector for determining the intensity of detected objects within the area of interest; and
  - c) a threat immediacy detector for determining the immediacy of a threat posed by the detected objects based on an organizational pattern of the detected objects, of Claim 2, wherein the threat immediacy detector comprises:
    - i) a) an automatic shape recognition module for comparing the a density image generated by the threat immediacy detector to a predefined set of examples, each of the templates being representative of an organizational pattern and determining a most likely formation based on the comparison of the density image to the predefined set of templates; and

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<u>ii) b)</u> an inference reporter for reporting the most likely formation in terms of the immediacy of the threat posed by the detected objects.

- 4. (original) The system of Claim 3, wherein a plurality of configurations are defined for each template in the predefined set of templates.
- 5. (original) The system of Claim 4, wherein the automatic shape recognition module compares the density image to each of the configurations defined for each template in the predefined set of templates.
- 6. (original) The system of Claim 5, wherein the configurations defined for each template in the predefined set of templates are based on at least one parameter.
- 7. (original) The system of Claim 6, wherein the at least one parameter comprises at least one external parameter.
- 8. (original) The system of Claim 7, wherein the at least one external parameter comprises:
  - a) position;
  - b) orientation; and
  - c) scale.
- 9. (original) The system of Claim 6, wherein the t least one parameter comprises at least one internal parameter which is unique to each of the emplates.
- 10. (original) The system of Claim 3, wherein there are a plurality of most likely formations.
- 11. (currently amended) The system of Claim  $\underline{3}$  1, wherein the templates comprise:
  - a) a wedge template;
  - b) an echelon template;
  - c) a column template; and
  - d) a vee template.
- 12. (original) A method for determining a military threat level associated with a collection of detected objects located within a geographical area of interest, the method comprising:
  - a) defining a set of formation templates, wherein each formation template is representative of an organizational pattern and comprises a plurality of cells;

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- b) defining a plurality of configurations for each of the formation templates;
  - c) defining the geographic area of interst;
- d) detecting the collection of objects within the geographical area of interest, wherein each detected object in the collection of detected objects has a geographical location;
- e) creating a density image based on the geographical locations of the collection of detected objects;
- f) identifying sections of the density image that are too sparse to contain a formation;
- g) determining a probability of finding points in each of the formation template cells for each of the configurations of each of the formation templates;
- h) determining a probably formation based on the probability of finding points in each of the emplate cells for each of the configurations of each of the formation templates, wherein the probable formation is indicative of the threat of the collection of detected objects; and
  - i) reporting the probably formation.
- 13. (original) The method of Claim 12, further comprising determining a strength of the threat based on a density of the probably formation.
- 14. (original) The method of claim 12, wherein the objects are moving vehicles.
- 15. (original) The method of Claim 14, wherein the moving vehicles are ground vehicles.
- 16. (original) The method of Claim 12, wherein the set of formation templates comprises:
  - a) a wedge template;
  - b) an echelon template;
  - c) a column template; and
  - d) a vee template.
- 17. (original) The method of Claim 12, wherein the configurations for each of the formation templates are based on at least one parameter.

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- 18. (original) The method of Claim 17, wherein the at least one parameter comprises at least one external parameter.
- 19. (original) The method of Claim 18, wherein the at least one external parameter comprises:
  - a) position;
  - b) orientation; and
  - c) scale.
- 20. (original) The method of Claim 18, wherein the at least one parameter comprises at least one internal parameter.
- 21. (original) The method of Claim 12, wherein determining the probable formation results in a determination that there are a plurality of probable formations.
- 22. (original) The method of Claim 12, wherein determining the probable formation results in a determination that there are no probably formations.